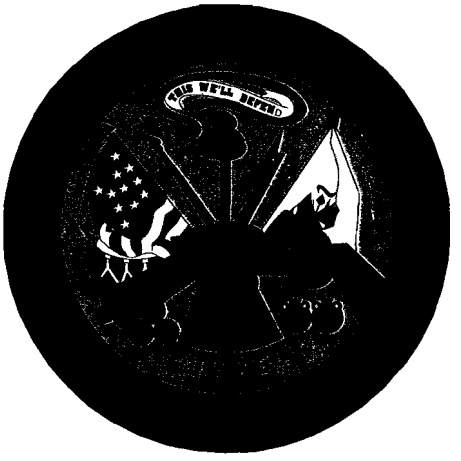
Supplemental
Environmental Assessment

Operation of an Outdoor Small Arms Firing Range (G-2 Area) at Picatinny Arsenal

Submitted to:

U.S. Department of the Army
ARDEC
Picatinny Arsenal, New Jersey, 07806-5000



Submitted by:

TETRA TECH

Tetra Tech EM Inc.
1000 The American Road
Morris Plains, New Jersey

Revised by
Installation Management Command, Northeast Region and the
Picatinny Arsenal Environmental Affairs Division

June 2011

SIGNATURES AND APPROVAL

SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT
OPERATION OF AN OUTDOOR SMALL ARMS FIRING RANGE (G-2 AREA) AT PICATINNY ARSENAL

	SIGNATURE	DATE
APPROVAL RECOMMENDED BY Mr. Anthony Madeira Range Operator Picatinny Arsenal, NJ	Anthony M Madeira	15 JUNE 11
APPROVAL RECOMMENDED BY Mr. Richard Walter Department of Public Works Picatinny Arsenal, NJ	Richard D Walter	13 June 11
APPROVAL RECOMMENDED BY Mr. Thomas J. Solecki Chief, Environmental Affairs Division Picatinny Arsenal, NJ	Thomas J Solecki	9 JUNE 11
APPROVAL RECOMMENDED BY Mr. Richard Havrisko Director, Public Works Picatinny Arsenal, NJ	Richard Havrisko	13 Jun 11
APPROVAL RECOMMENDED BY Mr. Lawrence M. Brady Legal Office Picatinny Arsenal, NJ	James M Brady	20 JUNE 11
APPROVAL Herb Koehler LTC, LG Garrison Commander	Herb Koehler	6-20-11

SIGNATURES AND APPROVAL

SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT
OPERATION OF AN OUTDOOR SMALL ARMS FIRING RANGE (G-2 AREA) AT PICATINNY ARSENAL
(continued)

	SIGNATURE	**DATE**
APPROVAL RECOMMENDED BY Mr. Robert Souders Security Division Picatinny Arsenal, NJ	Robert Souders	15 JUN 11

EXECUTIVE SUMMARY

(a) Lead Agency and Location:	U.S. Department of the Army, Picatinny Arsenal, Rockaway Township, New Jersey
(b) Proposed Action:	Operation and maintenance of an outdoor small arms firing range at Picatinny's G-2 Area
(c) Responsible Officials:	LTC Charles H. Koehler, Garrison Commander U.S. Army – Picatinny Arsenal, NJ (973) 724-6000

The U.S. Army proposes to operate and maintain an outdoor small arms firing range at Picatinny's G-2 Area. A heavy-duty steel containment trap has been designed and constructed in place of a soil impact berm that was originally proposed and evaluated in the 2005 Environmental Assessment (EA). This supplemental EA (SEA) assesses the potential environmental effects of that design change.

On the basis of the findings presented in this SEA and in the 2005 EA, the Proposed Action could have minor to no adverse environmental impacts on the resources selected for analysis. Moreover, implementation of the Proposed Action would not appreciably change the cumulative impacts on human health, the environment, and other resources as identified in the 2005 EA. Potential adverse impacts which could result from operation of the range should be avoided or reduced through implementation of design features and best management practices (BMPs).

Similar to conclusions of the 2005 EA, implementing the Preferred Action as presented in this SEA would have no significant effects on the quality of the natural or human environment at Picatinny Arsenal. An Environmental Impact Statement is not required. Issuing a Finding of No Significant Impact would be appropriate.

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APPENDIX

TABLES

FIGURE

1.0 PURPOSE, NEED, AND SCOPE

The following sections describe the background, purpose and need, and scope of analysis of the Proposed Action.

1.1 BACKGROUND

The U.S. Department of the Army (U.S. Army) tasked Tetra Tech EM, Inc., (Tetra Tech) to prepare this supplemental environmental assessment (SEA) for operation and maintenance of an outdoor small arms firing range within the G-2 Area of Picatinny Arsenal in Rockaway Township, Morris County, New Jersey (NJ) (see Figure 1). Picatinny Arsenal is home to the Armament Research, Development, and Engineering Center (ARDEC), and houses several other U.S. Department of Defense (DoD) tenant organizations and numerous private contractors.

In September 2005, Picatinny Arsenal approved an environmental assessment (EA) titled *Final Environmental Assessment Construction and Operation of an Outdoor Firing Range (G-2 Area) at Picatinny Arsenal* (U.S. Army 2005), hereafter referred to as the 2005 EA, that had been prepared for the outdoor small arms firing range within the G-2 Area (range). The 2005 EA evaluated potential impacts from construction, maintenance, and operation of the range on human health and the environment. The EA concluded that implementing the Proposed Action would likely have minor adverse impacts on several resources at the site, but those impacts could be reduced through implementation of best management practices (BMP) and engineering controls. Construction of the range is now nearly complete; however, major design elements originally proposed and evaluated in the 2005 EA have changed: the soil impact berm has been replaced with a heavy-duty steel containment trap and an engineered system to collect, handle and treat surface water runoff is not being constructed. The change in design (soil impact berm to steel trap) was to allow an alternate technology for the capture of lead instead of impacting an earthen berm. Additionally, the stormwater collection system will not be used. The minor amount of stormwater that accumulates in the trough in front of the bullet traps will be allowed to evaporate and infiltrate to the ground. BMP's will be used to avoid impacts to soils, surface water, and groundwater. This SEA has been prepared to evaluate the potential impacts from these design changes.

1.2 PURPOSE AND NEED FOR THE PROPOSED ACTION

Construction of the range at Picatinny Arsenal is nearing completion on a previously disturbed parcel of land classified as an inactive range. The Proposed Action is for operation and maintenance of the outdoor small arms firing range to support live-fire training for installation security and law enforcement personnel. The firing range will also accommodate other federal agencies, as well as state, county, and local governments. Design elements of the range include a heavy-duty steel containment trap, modular concrete sidewalls, an overhead steel baffle system, and firing line cover for projectile containment; 21 5-foot-wide firing lanes with a firing line to target distance of 25 yards; and a gravel parking area and range floor. The range design as proposed will accommodate all pistol calibers, up to and including .44 magnum, military 5.56-millimeter (mm) rifle ammunition, and 12-gauge shotgun slugs with minimal bullet fragmentation or ricochet potential.

A heavy-duty steel containment trap has been constructed in place of a soil impact berm originally proposed and evaluated in the 2005 EA.

1.3 SCOPE OF ANALYSIS

This SEA was prepared in accordance with the National Environmental Policy Act (NEPA) and applicable U.S. Army regulations. Its purpose is to inform decision makers and the public of the potential

environmental consequences of the Proposed Action and alternatives. It considers direct, indirect, and cumulative effects of the Proposed Action and the No Action alternatives. Additionally, it incorporates by reference the 2005 EA.

The scope of this SEA is an evaluation of potential impacts on air quality, noise, soils, and water resources that may result from implementing the Proposed Action. Only these resource areas are anticipated to undergo impacts from the revised Proposed Action.

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

The following sections describe the Army's proposal to operate the range for small arms training and range maintenance.

2.1 PROPOSED ACTION AND ALTERNATIVES

The following sections describe the No Action and Proposed Action (Preferred) alternatives.

2.1.1 Alternative 1 – No Action Alternative

Under the No Action alternative, Picatinny Arsenal security and law enforcement agencies would be required to conduct live-fire training at other locations that would require additional travel time and expense. Weapons qualification is a critical skill requirement for arsenal security and law enforcement personnel. Not implementing the Proposed Action would deprive Picatinny Arsenal of the use of a modern outdoor range with a containment trap that provides superior safety, reliability, and ease of use and is considered an industry standard.

2.1.2 Alternative 2 – Preferred Alternative

As detailed in Section 1.2, the Proposed Action is for operation and maintenance of an outdoor firing range to support live-fire training practice for installation security and law enforcement. The range would include a heavy-duty steel containment trap that provides the most effective and safest bullet collection system available. Moreover, the steel containment trap includes individual collection canisters that allow for easy recycling of projectiles. Also, the canisters minimize worker contact with the lead projectiles during recycling activities.

2.2 CRITERIA FOR EVALUATING THE ALTERNATIVES

This SEA evaluates the 2005 EA for adequacy and completeness in light of the design change from the original Proposed Action. Specifically, previously analyzed resources (air quality, noise, soils, and water) are evaluated to determine if they would be impacted by the design changes.

2.3 ALTERNATIVES CONSIDERED

As discussed previously, this SEA evaluates only the No Action alternative and the Proposed Action or Preferred Alternative. The 2005 EA evaluated other locations for construction, operation, and maintenance of the outdoor range; however, those alternatives were eliminated from further evaluation due to a variety of constraints such as the need for unexploded ordnance (UXO) surveys or clearance, impacts on wetlands, special use airspace hazards, existing environmental contamination, impacts on noise receptors, conflicts with Quantity Distance Arcs (Q/D Arc), potential conflicts with archeological sites, inadequate access, potential conflicts with other planned developments, and need for tree removal.

The G-2 area is an ideal location for the range because of its remote location within Picatinny Arsenal, its status as an inactive range and highly disturbed site, and its distance from neighboring properties.

3.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES OF THE ALTERNATIVES

Resources evaluated in the 2005 EA were re-evaluated in this SEA to determine how they may be affected by implementation of the revised Proposed Action. This SEA evaluates some of those resources, while others have not been reanalyzed because they would not be affected by the revised Proposed Action (Table 3-1).

Table 3-1. Resources Analyzed

Resource	Potentially Affected by Proposed Action and Analyzed in this Supplemental EA
Air Quality	Yes
Noise	Yes
Groundwater	Yes
Surface Water and Stormwater	Yes
Soils	Yes
Wetlands and Wild and Scenic Rivers and Floodplains	No
Topography, Soils and Geologic Resources	No
Biological Resources	No
Archeological, Historical, and Aesthetic Resources	No
Socio-Economic Environment and Environmental Justice	No

3.1 AIR QUALITY

The following sections discuss provisions for protection of air quality and potential impacts of the Proposed Action and No Action alternatives on air quality.

3.1.1 Affected Environment

The U.S. Environmental Protection Agency (EPA) Region 2 and New Jersey Department of Environmental Protection (NJDEP) regulate air quality in New Jersey. The Clean Air Act (CAA) (42 *United States Code* [U.S.C.] 7401-7671q), as amended, gives the EPA responsibility to establish the primary and secondary National Ambient Air Quality Standards (NAAQS) (40 *Code of Federal Regulations* [CFR] Part 50) that set acceptable concentration levels for six criteria pollutants: particulate matter (PM_{10} and $PM_{2.5}$), sulfur dioxide (SO_2), carbon monoxide (CO), nitrous oxides (NO_x), ozone (O_3), and lead. Short-term NAAQS (1-, 8-, and 24-hour periods) have been established for pollutants contributing to acute health effects, while long-term NAAQS (annual averages) have been established for pollutants contributing to chronic health effects. While each state has authority to adopt standards stricter than those established under the federal program, the state of New Jersey accepts the federal standards.

Federal regulations designate Air-quality Control Regions (AQCR) in violation of the NAAQS as *nonattainment* areas. Federal regulations designate AQCRs with levels below the NAAQS as *attainment*

areas. *Maintenance* AQCRs are areas that have previously been designated nonattainment and have been re-designated to attainment for a probationary period through implementation of maintenance plans. According to the severity of the pollution problem, nonattainment areas can be categorized as marginal, moderate, serious, severe, or extreme. Morris County, and therefore Picatinny Arsenal, is in New Jersey-New York-Connecticut Interstate Air Quality Control Region (AQCR) 043. AQCR 043 is in the O_3 transport region (OTR) that includes 12 states and Washington, DC. The EPA has designated Morris County as follows:

- Moderate nonattainment for the 8-hour O_3 NAAQS
- Nonattainment for the $PM_{2.5}$ NAAQS
- Attainment for all other criteria pollutants (40 CFR 81; EPA 2010a, b).

Greenhouse Gases and Global Warming. Greenhouse gases (GHG) are components of the atmosphere that trap heat relatively near the surface of the earth, therefore contributing to the greenhouse effect and global warming. Most GHGs occur naturally in the atmosphere, but increases in their concentrations result from human activities such as burning fossil fuels. Ongoing rises in global temperatures are expected as human activities continue to add carbon dioxide (CO_2), methane, nitrous oxide, and other greenhouse (or heat-trapping) gases to the atmosphere. Whether or not rainfall will increase or decrease remains difficult to project for specific regions (EPA 2010c; Intergovernmental Panel on Climate Change [IPCC] 2007).

Executive Order (EO) 13514, *Federal Leadership in Environmental, Energy, and Economic Performance* (published since the original environmental assessment) outlines policies intended to ensure that federal agencies evaluate climate-change risks and vulnerabilities, and manage short- and long-term effects of climate change on their operations and missions. The EO specifically requires the Army to measure, report, and reduce its GHG emissions from both its direct and indirect activities. The DoD has committed to reduce GHG emissions from non-combat activities 34 percent by 2020 (DoD 2010). In addition, the Council on Environmental Quality (CEQ) recently released draft guidance on when and how federal agencies should consider GHG emissions and climate change in NEPA analyses. The draft guidance includes a presumptive effects threshold of 27,563 tons (25,000 metric tons) of CO_2 equivalent emissions from a federal action on an annual basis (CEQ 2010).

3.1.2 Environmental Consequences

The following sections describe the environmental consequences of the Proposed Action and No Action alternatives.

3.1.2.1 Proposed Action

Long-term minor adverse effects would be expected. Air quality effects would be minor unless the anticipated emissions would exceed the General Conformity Rule applicability threshold, exceed the GHG threshold in the draft CEQ guidance, or contribute to a violation of any federal, state, or local air regulation.

Air Quality Quantitative and Regulatory Impacts. The air quality impact from the Proposed Action was evaluated from a quantitative and regulatory perspective in the 2005 EA. This analysis included:

- Comparison of Facility and Proposed Outdoor Range's Emissions
- Comparison of Non-Source Fugitive and Proposed Outdoor Range's Emissions

- Comparison with Proposed Range Emissions and New Source Review/Prevention of Significant Deterioration (NSR/PSD) Emission Thresholds
- Regulatory Impact of the Proposed Outdoor Range.

Changes in the types of targets would not appreciably change the emissions from the proposed facility or the applicability of any federal, state, or local air regulations. Although the primary source of lead emissions associated with live fire training activities is the detonation of the charge, very small amounts of lead dust and fine particulates would be generated from bullets impacting the steel traps. Emissions associated with impacting the traps would be minute and difficult to quantify, and are not normally considered in estimating the emissions from live fire training activities (EPA 1998, 2008). Moreover, inhalation of lead dust for ranges equipped with steel traps is not identified as a critical pathway when performing human health risk analysis from small arms shooting ranges (EPA 2003). The analysis outlined in the 2005 EA is consistent with the Proposed Action outlined in this SEA, and is hereby incorporated by reference. As outlined in the 2005 EA, the effects on air quality would be minor. Although these effects would be minor, best management practices should be implemented when the traps are being emptied to ensure compliance with all federal and state health and safety regulations.

General Conformity. The overall attainment status for Morris County has changed since the 2005 EA was published. To determine the applicability of the General Conformity Rule, air emissions from proposed activities were estimated. The total direct and indirect emissions are less than the applicability thresholds (Table 3-2). Therefore, the general conformity requirements do not apply, and no formal conformity determination is required. Moderate changes in the quantity and types of munitions used would not have a substantial influence on the emission estimates, and would not change the level of effects under NEPA. A Record of Non-Applicability (RONA) to the General Conformity Rule is provided in Appendix A.

Table 3-2. Annual Operational Emissions Compared to Applicability Thresholds

Criteria Pollutant	CO	NO_x	VOCs	SO_x	PM_{10}	$PM_{2.5}$	Pb
Estimated Emission (tons per year)	0.047	0.0061	0.00041	0.0011	0.305	0.305	0.0106
De minimis Threshold	100	100	50	100	100	100	25
Would Emissions Exceed *de minimis* Levels?	No	No	No	No	No	No	No

Notes:

CO Carbon monoxide
NO_x Nitrogen oxides
VOC Volatile organic compound
SO_x Sulfur oxides
PM Particulate matter
Pb Lead

Greenhouse Gases and Global Warming. No new stationary sources of air emissions are associated with the Proposed Action. All operational activities would fall well below the CEQ threshold, and nothing outlined in the Proposed Action would prevent DoD from meeting its overall goal specified under EO 13514.

3.1.2.2 No Action Alternative

No effects are expected. No changes in operations would occur. Ambient air quality conditions would remain as described in Section 3.1.1.

3.2 NOISE

The following sections discuss sources of noise at Picatinny Arsenal and the potential environmental impacts of noise that would result from the Proposed Action and No Action alternatives.

3.2.1 Affected Environment

The primary sources of noise at Picatinny Arsenal are training operations and roadway traffic. Other sources of noise include landscaping and construction activities, and vehicle maintenance operations. The existing noise environment remains consistent with that outlined in the 2005 EA.

3.2.2 Environmental Consequences

The following sections describe the environmental consequences of the Proposed Action and No Action alternatives.

3.2.2.1 Proposed Action

Long-term minor adverse effects would be expected. Long-term increases in noise would result from small arms training at the installation. Noise from the use of small arms is generated primarily from weapons discharge in the projectile's bow shock as it travels down range. Noise from target impact is insignificant by comparison, and the Army Small Arms Range Noise Assessment Model (SARNAM) does not consider target impact when modeling noise from small arms ranges. Changes in the types of targets as outlined in the Proposed Action would not change the overall noise from the proposed facility, and the analysis outlined in the 2005 EA is consistent with the Proposed Action outlined in this SEA and is herby incorporated by reference. As outlined in the 2005 EA, effects from noise would be minor, and operation of the proposed range would be completely compatible with surrounding land uses (U.S. Army 2007).

3.2.2.2 No Action Alternative

No effects on the noise environment are expected. No changes in operations would occur. Ambient noise conditions would remain as described in Section 3.2.1.

3.3 SOILS

The following sections discuss soil conditions at Picatinny Arsenal and potential impacts of the Proposed Action and No Action alternatives on soils there.

3.3.1 Affected Environment

Soil conditions within the affected environment remain unchanged from those described in the 2005 EA.

3.3.2 Environmental Consequences

The following sections describe the environmental consequences of the Proposed Action and No Action alternatives.

3.3.2.1 Proposed Action

Long-term minor adverse effects on soils would be expected from implementing the Proposed Action. While the steel containment trap would contain most projectiles and bullet fragments, some would be expected to accumulate on the range floor. Implementation of the following range maintenance BMPs outlined in the 2005 EA would minimize impacts to range soils:

- Physically remove lead/projectiles from the range floor and apply lime to maintain soil pH at a range of 6.5 to 8.5 to reduce leaching potential.
- Periodically collect and analyze samples of surface soil from the range floor to ensure operation of the range is protective of human health and the environment.
- Implement site investigation/remedial actions in accordance with the NJDEP Technical Requirements for Site Remediation (TRSR) if results of samples collected from the range floor exceed the NJDEP current health-based Non Residential Direct Contact Soil Cleanup Criteria (NRDCSCC).

Additionally, containment of the projectiles and bullet fragments in the trap, along with periodic trap maintenance, would minimize exposure of metals to the ground surface.

3.3.2.2 No Action Alternative

No effects on the soils environment are expected. Existing soil conditions would remain as described in Section 3.3.1.

3.4 WATER RESOURCES

The following sections describe water resources at Picatinny Arsenal and potential impacts of the Proposed Action and No Action alternatives.

3.4.1 Affected Environment

In the project area, water resources include groundwater, surface water, and stormwater. The following are summaries of these resource areas within the range area as presented in the 2005 EA.

Groundwater
Groundwater in the project area is in the bedrock aquifer that is approximately 18 feet below ground surface (bgs). Groundwater flow is to the southwest toward the G-2 pond approximately 1,000 feet from the range. Previous groundwater sampling in the vicinity of the project area has not found contamination in groundwater above levels of concern.

Surface Water/Stormwater
No surface water bodies or storm drainage areas are in the immediate project area; however, Lake Denmark, Gravel Dam Cove, Ames Brook, and the G-2 pond are in the surrounding areas. The closest surface water body, the G-2 pond, is approximately 1,000 feet from the project area. Surface water generally follows the topography of the area to the southwest toward the G-2 pond and to the east-southeast in the direction of Ames Brook.

3.4.2 Environmental Consequences

The following sections describe the environmental consequences of the Proposed Action and No Action alternatives.

3.4.2.1 Proposed Action

Groundwater/Surface Water/Stormwater
No adverse effects on groundwater resources would be expected from implementing the Proposed Action. The heavy-duty steel containment trap would contain most projectiles and bullet fragments, which would be periodically collected and recycled. As a result, the vast majority of projectiles would not be subjected to weathering and exposure to the environment. However, exposure of any projectiles to weathering (i.e., on the range floor) may allow for transport of soluble metals such as lead. This will be kept to a minimum by the daily cleanup of spent shells near the discharge point. Such transport of lead in soils would be minimal because lead adsorbs strongly to soil, thus limiting leaching to subsurface soils and groundwater. Finally, implementing periodic soil sampling of the range floor (as described in Section 3.3.2.1) would screen range soils for lead. Figure 3 shows the groundwater flow direction at the site and the groundwater monitoring wells that can be used to monitor groundwater quality at the site.

3.4.2.2 No Action Alternative

No effects on the water resources are expected. Existing water resource conditions would remain as described in Section 3.4.1.

4.0 CONCLUSIONS

This SEA was prepared to re-evaluate potential impacts on the natural and human environment from activities associated with the Army's operation of an outdoor small arms firing range in the G-2 Area at Picatinny Arsenal. This SEA evaluated potential impacts on air quality, noise, soils, and water resources from implementing the Proposed Action and the No Action alternatives, as described in Section 2.0.

Based on this SEA and the 2005 EA, implementation of the Proposed Action would be expected to have minor to no adverse environmental impacts on analyzed resources. The Proposed Action should not result in an appreciable change to the cumulative impacts on human health, the environment, and other resources of Picatinny Arsenal. Potential adverse impacts, which could result from operation of the range will be avoided or reduced through implementation of engineering controls and BMPs. Implementation of the following BMPs should assist in avoiding or minimizing potential adverse impacts:

- Physically remove and recycle lead/projectiles from the bullet trap to minimize leaching of lead.
- Physically remove and recycle lead/projectiles from the range floor and apply lime to maintain soil pH at a range of 6.5 to 8.5 to reduce leaching potential.
- All sampling and analysis will be performed in accordance with a Sampling and Analysis Plan (SAP) approved by the Garrison prior to operation of the range. One round of soil and groundwater sampling will be conducted prior to operation of the range and these results will be considered baseline conditions. Parameters for analysis will include explosives and metals of concern previously detected in this area.
- Periodically collect and analyze samples of surface soil from the range floor to ensure operation of the range is protective of human health and the environment. It is recommended that this sampling be performed semi-annually in accordance with an approved SAP. Sampling frequency

may be reduced if levels of contamination are either not present or not increasing. It is recommended that approximately two (2) soil samples evenly spaced across the width of the range be collected in front of the concrete apron that supports the bullet trap. Two additional samples evenly spaced across the width of the range can also be collected slightly downrange from the range firing positions. Specific details will be outlined in the SAP.

- Implement site investigation/remedial actions in accordance with the NJDEP TRSR if results of samples collected from the range floor exceed the NJDEP current health-based NRDCSCC for lead or other constituents of concern. The current NJDEP action level for lead in soil is 800 mg/kg.
- Monitor groundwater through sampling and analyses to ensure operation of the range is protective of human health and the environment. It is recommended that this sampling be performed semi-annually and be conducted at the existing monitoring wells onsite (if they are determined to be suitable for sampling), in accordance with an approved SAP. Sampling frequency may be reduced if levels of contamination are either not present or not increasing.
- Implement site investigation/remedial actions in accordance with the NJDEP TRSR if results of samples collected from the groundwater monitoring wells exceed the NJDEP current health-based Ground Water Quality Standards (GWQS) for explosives and metals of concern. The current NJDEP action level for lead in groundwater is 5 µg/l.
- Development of a Standard Operating Procedure (SOP) manual for use at the range. The SOP will include information such as: general range operation procedures, Health and Safety procedures, medical monitoring of range operators, environmental maintenance procedures (i.e. BMPs listed above), etc. This SOP will be approved by the Garrison prior to operation of the range.
- Perform range maintenance activities with an approved Health and Safety Plan (HASP) in accordance with the Occupational Safety and Health Administration (OSHA) for protection from lead exposure.
- Collect spent shells after each firing event near the discharge point.

Similar to conclusions of the 2005 EA, implementing the Preferred Action as presented in this SEA would have no significant effects on the quality of the natural or human environment at Picatinny Arsenal. An Environmental Impact Statement is not required. Issuing a Finding of No Significant Impact would be appropriate.

5.0 REFERENCES AND RESOURCES

Council on Environmental Quality (CEQ). 2010. Memorandum for Heads of Federal Departments and Agencies on Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions. February 18.

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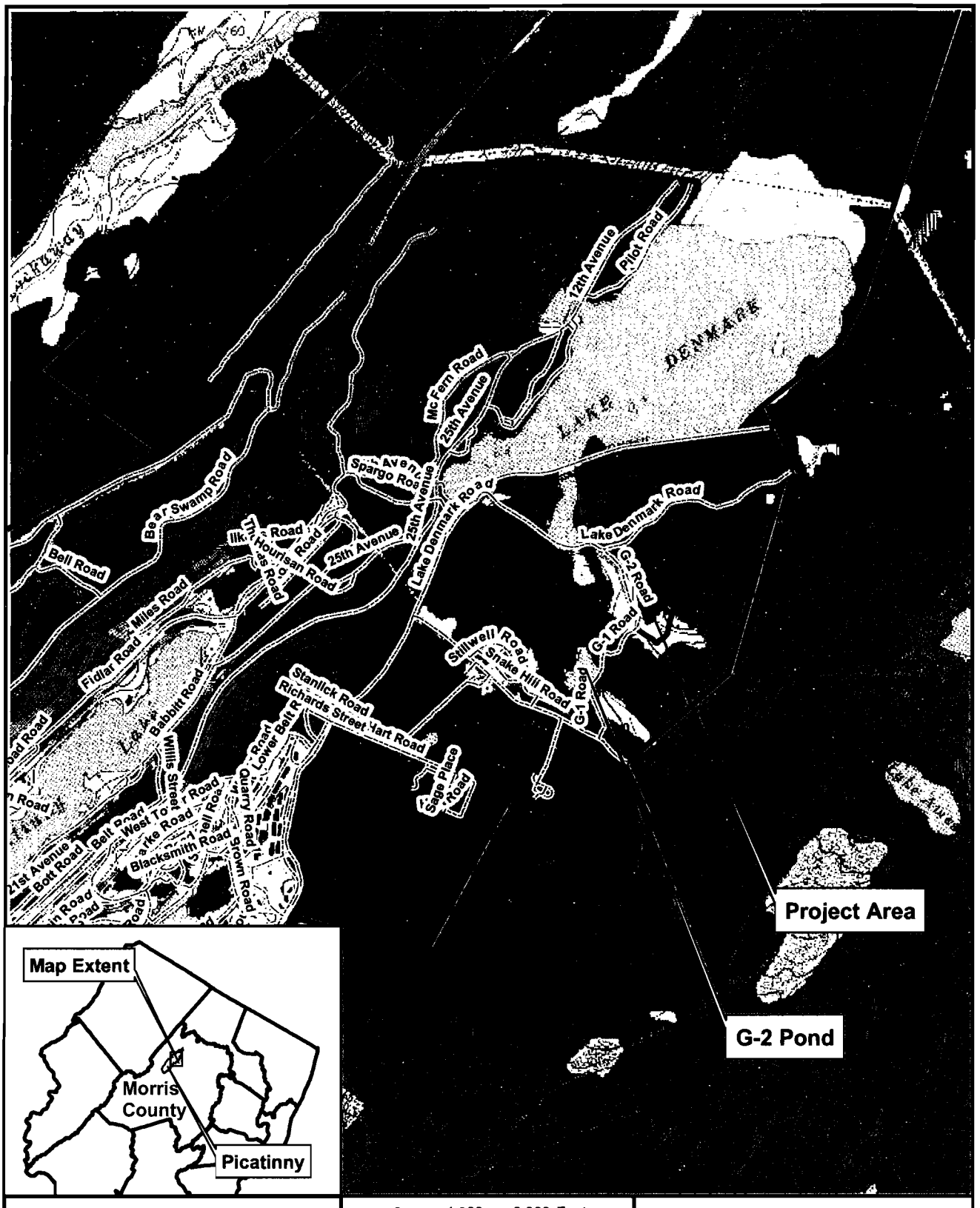
Figures



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0 1,000 2,000 Feet

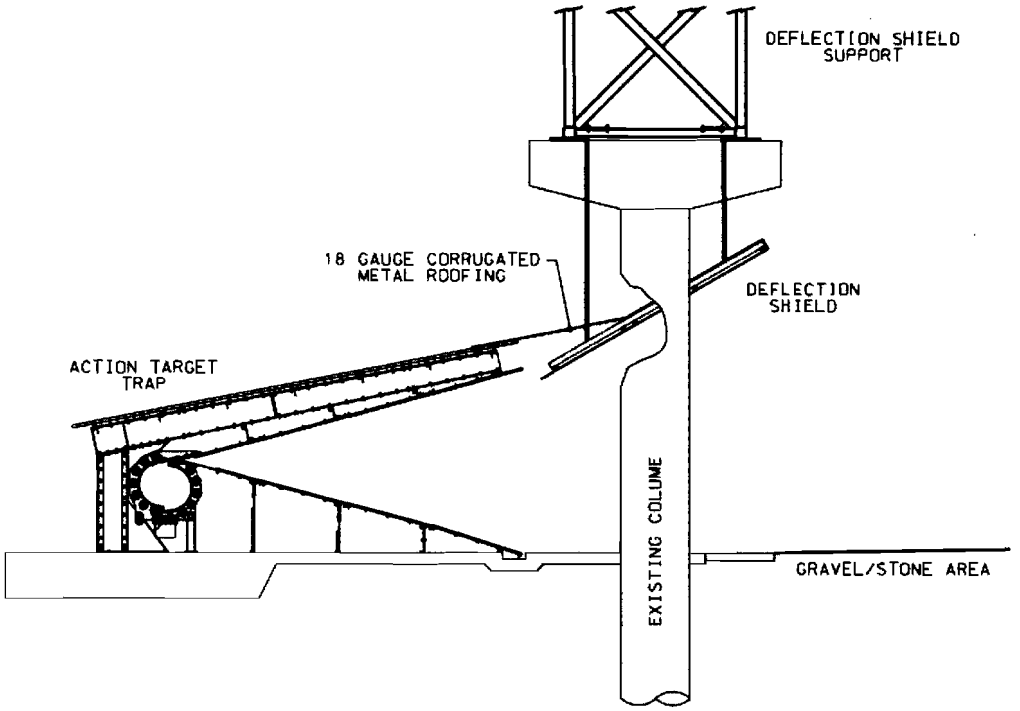
SCALE: 1:24,000 (1" = 2000')

Source: USGS 1:24,000 Topo Map
Dover, NJ Quadrangle
1954 - Photorevised 1981

Figure 1
Site Location Map

Picatinny - G-2 Area

*18 GAUGE CORRUGATED METAL ROOFING
IS ATTACHED AS PER MANUFACTURS RECOMMENDATIONS



Approximate Scale
1/8" = 1"

Source: Drawing Prepared By
Chugash, January 2011

Figure 2

G 2 Range Target Detail

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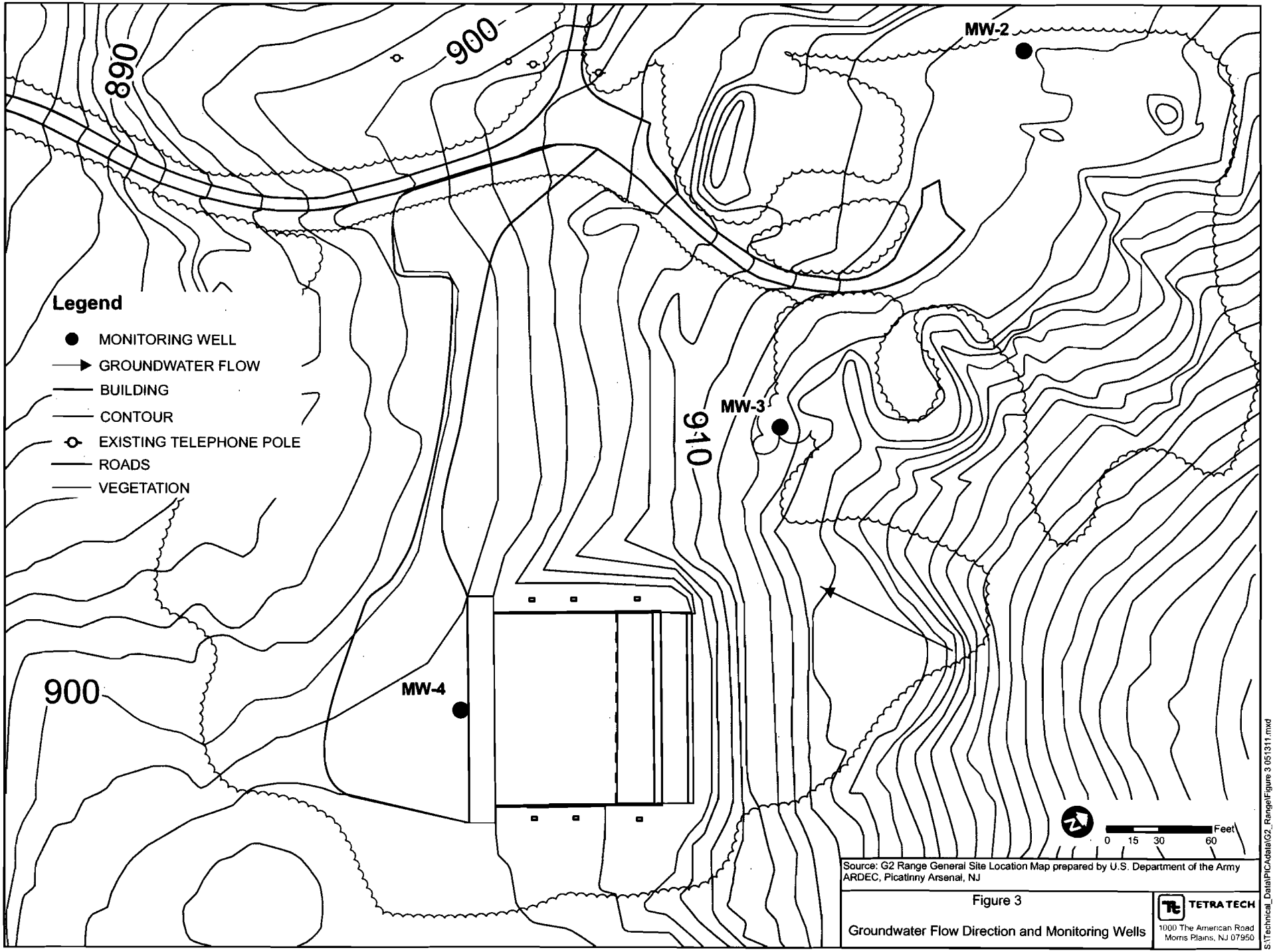
890
900
910
900
MW-2
MW-3
MW-4
Legend
MONITORING WELL
GROUNDWATER FLOW
BUILDING
CONTOUR
EXISTING TELEPHONE POLE
ROADS
VEGETATION
N
Feet
0 15 30 60
Source: G2 Range General Site Location Map prepared by U.S. Department of the Army ARDEC, Picatinny Arsenal, NJ
Figure 3
Groundwater Flow Direction and Monitoring Wells
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S:\Technical_Data\PICAdata\G2_Range\Figure 3 051311.mxd

Appendix A
Record of Non-Applicability

RECORD OF NON-APPLICABILITY
In Accordance with the Clean Air Act – General Conformity Rule For
The Proposed Operation of an Outdoor Firing Range (G-2 Area) at Picatinny Arsenal

The Army proposes to operate and maintain an outdoor firing range within the G-2 area of Picatinny Arsenal. The outdoor range would support live-fire training practices for installation security and law enforcement personnel, and would accommodate other federal agencies, as well as state, county, and local governments.

General Conformity under the Clean Air Act, Section 176 has been evaluated according to the requirements of 40 *Code of Federal Regulations* (CFR) Part 93, Subpart B. The requirements of this rule are not applicable to the Proposed Action because:

The highest total annual direct and indirect emissions from this Proposed Action would be below the applicability threshold values of 50 tons volatile organic compounds (VOC) and 100 tons for sulfur dioxide (SO_2), particulate matter ($PM_{2.5}$), and nitrous oxides (NO_x).

Supported documentation and emission estimates:

- **( ) Are Attached**
- **(X) Appear in the National Environmental Policy Act (NEPA) Documentation**
- **( ) Other (Not Necessary)**

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Signature

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Title

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Date

FINDING OF NO SIGNIFICANT IMPACT (FNSI)

Operation and Maintenance of an Outdoor Firing Range within the G-2 Area of Picatinny Arsenal

1.0 Name of Action

Operation and maintenance of an outdoor firing range within the G-2 Area of Picatinny Arsenal.

2.0 Description of the Proposed Action

In September 2005, Picatinny Arsenal approved an environmental assessment (EA) titled *Final Environmental Assessment Construction and Operation of an Outdoor Firing Range (G-2 Area) at Picatinny Arsenal* that had been prepared for the proposed G-2 Area small arms firing range. The 2005 EA evaluated potential impacts from construction, maintenance, and operation of the range on human health and the environment. The EA concluded that the Proposed Action might have minor adverse impacts on several resources at the site, but those impacts could be reduced through implementation of best management practices (BMP) and engineering controls. Now, construction of the range is nearly complete, and one of the major design elements evaluated in the 2005 EA has changed: the soil impact berm originally proposed has been replaced with a heavy-duty steel containment trap. The change in design (soil impact berm to steel trap) was to allow an alternate technology for the capture of lead instead of impacting an earthen berm. The following major design elements were not constructed: engineered system to collect and treat runoff, including treatment and storage tanks and pump station. Additionally, the stormwater collection system will not be used. The minor amount of stormwater that accumulates in the trough in front of the bullet traps will be allowed to evaporate and infiltrate to the ground. Because of these design changes a Supplemental Environmental Assessment (SEA) was prepared to assess potential impacts.

The Proposed Action is for operation and maintenance of the outdoor small arms firing range to support live-fire training for installation security and law enforcement personnel. The G-2 Area is located on the east side of Picatinny Arsenal, off Lake Denmark Road. The G-2 area is an ideal location for the range because of its remote location within Picatinny Arsenal, its status as an inactive range and highly disturbed site, and its distance from neighboring properties. Major elements of the range include a heavy-duty steel containment trap, modular concrete sidewalls, an overhead steel baffle system, and firing line cover for projectile containment; 21 5-foot-wide firing lanes with a firing line to target distance of 25 yards; and a gravel parking area and range floor. The range will accommodate all pistol calibers, up to and including .44 magnum, military 5.56-millimeter (mm) rifle ammunition, and 12-gauge shotgun slugs with minimal bullet fragmentation or ricochet potential. The firing range will also accommodate other federal agencies, as well as state, county, and local governments.

3.0 Anticipated Environmental Impacts

This SEA evaluates the 2005 EA for adequacy and completeness in light of the design change from the original Proposed Action. Specifically, previously analyzed resources (air quality, noise, soils, and water) are evaluated to determine if they would be impacted by the design changes.

The Proposed Action could have minor adverse impacts on the resources examined. These impacts will be reduced by employing mitigation measures. The Proposed Action should not result in an appreciable change to the cumulative impacts on human health, the environment, and other resources of Picatinny Arsenal. Potential adverse impacts, which could result from operation of the range, should be avoided or reduced through implementation of engineering controls and best management practices (BMPs). The following BMPs will be implemented and should assist in avoiding or minimizing potential adverse impacts:

- Physically remove and recycle lead/projectiles from the bullet trap to minimize leaching of lead.
- Physically remove and recycle lead/projectiles from the range floor and apply lime to maintain soil pH at a range of 6.5 to 8.5 to reduce leaching potential.
- Sampling and analysis will be performed in accordance with a Sampling and Analysis Plan (SAP) approved by the Garrison prior to operation of the range. One round of soil and groundwater sampling will be conducted prior to operation of the range; these results will be considered baseline conditions. Lead is the primary parameter of concern for analysis at this site.
- Periodically collect and analyze samples of surface soil from the range floor to ensure operation of the range is protective of human health and the environment. It is recommended that this sampling be performed semi-annually (can be reduced if levels of contamination either are not present or not increasing). It is recommended that approximately two (2) soil samples evenly spaced across the width of the range be collected in front of the concrete apron that supports the bullet trap. Two additional samples evenly spaced across the width of the range can also be collected slightly downrange from the range firing positions.
- Implement site investigation/remedial actions in accordance with the New Jersey Department of Environmental Protection (NJDEP) Technical Requirements for Site Remediation (TRSR) if results of samples collected from the range floor exceed the NJDEP current health-based Non Residential Direct Contact Soil Cleanup Criteria (NRDCSCC) for lead or other constituents of concern. The current NJDEP action level for lead in soil is 800 mg/kg.
- Quarterly groundwater sampling will only be required if the action level of 800 mg/kg is exceeded in the soil sampling procedures. Sampling frequency may be reduced if levels of contamination are either not present or not increasing over time.
- Implement site investigation/remedial actions in accordance with the NJDEP TRSR if results of samples collected from the groundwater monitoring wells exceed the Ground Water Quality Standards (GWQS) for lead. The current EPA action level for lead in groundwater is 15 µg/l.
- Development of a Standard Operating Procedure (SOP) manual for use at the range. The SOP will include information such as: general range operation procedures, Health and Safety procedures, medical monitoring of range operators, environmental maintenance procedures (i.e. BMPs listed above), etc. This SOP will be approved by the Garrison prior to operation of the range.
- Perform maintenance activities with an approved Health and Safety Plan (HASP) in accordance with the Occupational Safety and Health Administration (OSHA) for protection from lead exposure.
- Collect spent shells near the discharge point at the end of each firing event.

4.0 Conclusion

The SEA was prepared to re-evaluate potential impacts on the natural and human environment from activities associated with the Army's operation of an outdoor small arms firing range in the G-2 Area at Picatinny Arsenal. The SEA evaluated potential impacts on air quality, noise, soils, and water resources from implementing the Proposed Action and the No Action alternatives.

Similar to conclusions of the 2005 EA, implementing the Preferred Action as presented in this SEA would have no significant effects on the quality of the natural or human environment at Picatinny Arsenal. An Environmental Impact Statement is not required.

5.0 Public Review

This FNSI and associated Supplement Environmental Assessment for the operation and maintenance of an outdoor firing range within the G-2 Area of Picatinny Arsenal are available for public review at the Public Affairs Office, Picatinny Arsenal and the Rockaway Township Public Library. Questions concerning the FNSI and SEA can be directed to Mr. Peter Rowland (973-724-9492). Written comments should be mailed to Mr. Rowland at Public Affairs Office, RDAR-AO (Building 1), Picatinny Arsenal, NJ 07806-5000. Public comment will be accepted for a period of 30 days from the date of the published notice of availability.

27 July 2011
Date

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